STIC Search Report

EIC 2100

USPTO

STIC Database Tracking Number: 1[illegible]

TO: Ayal Sharon
Location: rnd 5C21
Art Unit : 2123
Friday, July 22, 2005

Case Serial Number: 09/995222

From: Geoffrey St. Leger
Location: EIC 2100
Randolph-4B31
Phone: 23450

geoffrey.stleger@uspto.gov

Search Notes

Dear Examiner Sharon,

Attached please find the results of your search request for application 09/995222. I searched Dialog's patent files, technical databases and general files; along with the Internet, ACM, IEEE, Citeseer, DTIC and IBM's TDBs.

Please let me know if you have any questions.

Regards,

Geoffrey St. Leger

Geoffrey St. Leger
4B31/x23540

sira
Search and Information Resources Administration

160160

STIC EIC 2100
Search Request Form

Today's Date: 7/21/2005

What date would you like to use to limit the search?

Priority Date: Other:

Name Ayal Sharon

AU 2123 Examiner # ~~272-371~~ 78950

Room # RND 5C21 Phone 272-3714

Serial # 09/995,222

Format for Search Results (Circle One):

PAPER DISK EMAIL

Where have you searched so far?

USP DWPI EPO JPO ACM IBM TDB

IEEE INSPEC SPI Other ______

Is this a "Fast & Focused" Search Request? (Circle One) YES NO

A "Fast & Focused" Search is completed in 2-3 hours (maximum). The search must be on a very specific topic and meet certain criteria. The criteria are posted in EIC2100 and on the EIC2100 NPL Web Page at http://ptoweb/patents/stic/stic-tc2100.htm.

What is the topic, novelty, motivation, utility, or other specific details defining the desired focus of this search? Please include the concepts, synonyms, keywords, acronyms, definitions, strategies, and anything else that helps to describe the topic. Please attach a copy of the abstract, background, brief summary, pertinent claims and any citations of relevant art you have found.

partial differential equations
non local coupling variables
FEMLAB 2.2

STIC Searcher Geoffrey St-Leger Phone 23590

Date picked up 7/22/5 Date Completed 7/22/5

sira Search and Information Resources Administration

```
File   8:Ei Compendex(R) 1970-2005/Jul W2
         (c) 2005 Elsevier Eng.  Info. Inc.
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File 144:Pascal 1973-2005/Jul W2
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File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec
         (c) 1998 Inst for Sci Info
File  34:SciSearch(R) Cited Ref Sci 1990-2005/Jul W3
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File  95:TEME-Technology & Management 1989-2005/Jun W2
         (c) 2005 FIZ TECHNIK
File  62:SPIN(R) 1975-2005/May W2
         (c) 2005 American Institute of Physics
File 239:Mathsci 1940-2005/Sep
         (c) 2005 American Mathematical Society

Set     Items    Description
S1     366964    PARTIAL??()DIFFERENTIAL()EQUATION? ? OR PDE OR PDES
S2        419    (NON()LOCAL OR NONLOCAL)(1W)COUPL???
S3         11    S1 AND S2
S4         10    RD (unique items)
```

4/5/1 (Item 1 from file: 8)
DIALOG(R)File 8:Ei Compendex(R)

06104835 E.I. No: EIP02317041402
Title: Drifting pattern domains in a reaction-diffusion system with nonlocal coupling
Author: Nicola, Ernesto M.; Or-Guil, Michal; Wolf, Wilfried; Bar, Markus
Corporate Source: MPI fur Physik Komplexer Systeme, D-01187 Dresden, Germany
Source: Physical Review E - Statistical Physics, Plasmas, Fluids, and Related Interdisciplinary Topics v 65 n 5 2 May 2002. p 551011-551014
Publication Year: 2002
CODEN: PLEEE8 ISSN: 1063-651X
Language: English

Document Type: JA; (Journal Article) Treatment: T; (Theoretical)
Journal Announcement: 0208W2
Abstract: Drifting pattern domains (DPD) were studied in a reaction-diffusion system with **nonlocal coupling** . The dynamics of single interfaces between Turing and wave patterns was also discussed. The results showed that DPDs exist due to locking of the interface velocities. It was also found that DPDs select their constituents from whole families of possible traveling or stationary periodic patterns. (Edited abstract) 25 Refs.
Descriptors: *Diffusion; Reaction kinetics; Interfaces (materials); **Partial differential equations** ; Mathematical models; Computer simulation
Identifiers: Drifting pattern domains (DPD)
Classification Codes:
931.1 (Mechanics); 802.2 (Chemical Reactions); 931.2 (Physical Properties of Gases, Liquids & Solids); 921.2 (Calculus); 723.5 (Computer Applications)
931 (Applied Physics Generally); 802 (Chemical Apparatus & Plants; Unit Operations; Unit Processes); 921 (Applied Mathematics); 723 (Computer Software, Data Handling & Applications)
93 (ENGINEERING PHYSICS); 80 (CHEMICAL ENGINEERING, GENERAL); 92 (ENGINEERING MATHEMATICS); 72 (COMPUTERS & DATA PROCESSING)

4/5/2 (Item 1 from file: 144)
DIALOG(R)File 144:Pascal

15272332 PASCAL No.: 01-0442562
Finite element analysis of a coupling eigenvalue problem on overlapping domains
Advanced Numerical Methods for Mathematical Modelling
DE SCHEPPER Hennie
BULTHEEL Adhemar, ed; ROOSE Dirk, ed
Department of Mathematical Analysis, Ghent University. Galglaan 2, 9000 Gent, Belgium
Department of Computer Science, K.U. Leuven, Celestijnenlaan 200A, 3001 Leuven, Belgium
Journal: Journal of computational and applied mathematics, 2001, 132 (1) 141-153
ISSN: 0377-0427 CODEN: JCAMDI Availability: INIST-16270; 354000098395240100
No. of Refs.: 7 ref.
Document Type: P (Serial) ; A (Analytic)
Country of Publication: Netherlands
Language: English
In this paper, we consider a nonstandard elliptic eigenvalue problem on a rectangular domain, consisting of two overlapping rectangles, where the interaction between the subdomains is expressed through an integral

coupling condition on their intersection. For this problem we set up finite element (FE) approximations, without and with numerical quadrature. The involved error analysis is affected by the **nonlocal coupling** condition, which requires the introduction and error estimation of a suitably modified vector Lagrange interpolant on the overall FE mesh. As a consequence, the resulting error estimates are sub-optimal, as compared to the ones established, e.g., in Vanmaele and van Keer (RAIRO - Math. Mod. Num. Anal 29(3) (1995) 339-365) for classical eigenvalue problems with local boundary or transition conditions.

English Descriptors: **Partial differential equation** ; Boundary value problem; Eigenvalue problem; Finite element method; Coupling; Variational equation; Sobolev space; Lagrange interpolation

French Descriptors: Equation derivee partielle; Probleme valeur limite; Probleme valeur propre; Methode element fini; Couplage; Equation variationnelle; Espace Sobolev; Interpolation Lagrange

Classification Codes: 001A02I01K

4/5/3 **(Item 1 from file: 239)**
DIALOG(R)File 239:Mathsci

03433040 MR 2003i#35095
On the approximation solvability of a class of strongly nonlinear elliptic problems on unbounded domains.
Marcozzi, Michael D. (Department of Mathematical Sciences, University of Nevada, Las Vegas, Nevada, 89154)
Corporate Source Codes: 1-NVLV
Nonlinear Anal.
Nonlinear Analysis. Theory, Methods & Applications. An International Multidisciplinary Journal. Series A: Theory and Methods, 2003, 52, no. 2, 467--484. ISSN: 0362-546X CODEN: NOANDD
Language: English Summary Language: English
Document Type: Journal
Journal Announcement: 200304
Subfile: MR (Mathematical Reviews) AMS
Abstract Length: MEDIUM (11 lines)
Summary: ``A class of strongly nonlinear boundary value problems posed on unbounded regions is considered. A **nonlocal coupling** of the linearized far-field exterior to an auxiliary boundary allows for approximations to be defined on domains of finite extent. Constructive existence results for bounded domains are then extended by employing an exhaustive sequence of approximating domains. In particular, well-posedness is seen to be equivalent to the unique approximation solvability, with the rate of convergence depending upon the radius of the auxiliary boundary. An application to a model of proteins immersed in an electrolyte solution is given.''
Reviewer: Wang, Zhi Qiang (1-UTS)
Review Type: Signed review
Descriptors: *35J60 - **Partial differential equations - Partial differential equations** of elliptic type (See also 58J10, 58J20)-Nonlinear **PDE** of elliptic type ; 35B35 - **Partial differential equations** -Qualitative properties of solutions-Stability, boundedness; 35J25 - **Partial differential equations - Partial differential equations** of elliptic type (See also 58J10, 58J20)-Boundary value problems for second-order, elliptic equations; 47J05 -Operator theory-Equations and inequalities involving nonlinear operators (See also 46Txx) (For global and geometric aspects, see 58-XX)-Equations involving nonlinear operators (general

4/5/4 (Item 2 from file: 239)
DIALOG(R)File 239:Mathsci

03236443 MR 2002b#35096
On a semilinear parabolic equation system with nonlocal **and** coupled **boundary conditions.**
Wang, Yuangdi (Department of Mathematics, Shanghai University, Shanghai 200041, Peoples Republic of China)
Zhou, Shuqing (Department of Mathematics, Hunan Normal University, Changsha 410081, Hunan, Peoples Republic of China)
(Wang, Yuan Di)
Corporate Source Codes: PRC-SGH; PRC-HNN
Ann. Differential Equations
Annals of Differential Equations. Weifen Fangcheng Niankan, 2000, 16, no. 3, 270--280. ISSN: 1002-0942
Language: English Summary Language: English
Document Type: Journal
Journal Announcement: 200104
Subfile: MR (Mathematical Reviews) AMS
Abstract Length: SHORT (6 lines)
The authors study an initial-boundary value problem for a semilinear parabolic system. The boundary conditions are non-local. The assumptions on the nonlinearities are such that a comparison principle still holds. They investigate the existence, uniqueness, and large-time behavior of a solution via the method of upper and lower solutions.
Reviewer: Xu, Xiang Sheng (1-MSS)
Review Type: Signed review
Descriptors: *35K55 - **Partial differential equations** -Parabolic equations and systems (See also 35Bxx, 35Dxx, 35R30, 35R35, 58J35)-Nonlinear **PDE** of parabolic type ; 35B40 - **Partial differential equations** -Qualitative properties of solutions-Asymptotic behavior of solutions; 35K15 - **Partial differential equations** -Parabolic equations and systems (See also 35Bxx, 35Dxx, 35R30, 35R35, 58J35)-Initial value problems for second-order, parabolic equations; 35K20 - **Partial** differential **equations** -Parabolic equations and systems (See also 35Bxx, 35Dxx, 35R30, 35R35, 58J35)-Boundary value problems for second-order, parabolic equations

4/5/5 (Item 3 from file: 239)
DIALOG(R)File 239:Mathsci

03210821 MR 2001k#65166
On finite element methods for coupling eigenvalue problems.
The mathematics of finite elements and applications, X, MAFELAP 1999 (Uxbridge)
De Schepper, Hennie (Department of Mathematical Analysis, State University of Ghent (RUG), 9052 Ghent, Belgium)
Van Keer, Roger (Department of Mathematical Analysis, State University of Ghent (RUG), 9052 Ghent, Belgium)
Corporate Source Codes: B-GHNTE-MA; B-GHNTE-MA
2000,
Elsevier, Oxford,; 355--365,,
Language: English Summary Language: English
Document Type: Proceedings Paper
Journal Announcement: 200106
Subfile: MR (Mathematical Reviews) AMS
Abstract Length: MEDIUM (13 lines)
In this paper, the authors consider second-order elliptic eigenvalue problems in multi-component domains consisting of polygonal domains in the plane, where the interaction between the domains is expressed through

nonlocal **coupling** conditions. The authors study the finite element approximation with and without numerical quadrature, by adapting the operator method [see M. Vanmaele and R. Van Keer, RAIRO Model. Math. Anal. Numer. 29 (1995), no. 3, 339--365; MR 96k:65074]. The authors introduce suitable approximation spaces and analyse the imperfect Lagrange interpolant. The authors prove some preliminary results for the error analysis. The authors also consider the consistent mass and the numerical quadrature FEMs.

\{For the entire collection see MR 2001g:65010.\}

Reviewer: Zayed, Elsayed Mohamed E. (ET-ZAGS)

Review Type: Signed review

Proceedings Reference: 2001g#65010

Descriptors: *65N25 -Numerical analysis- **Partial** **differential** **equations** , boundary value problems-Eigenvalue problems ; 65N30 -Numerical analysis- **Partial** **differential** **equations** , boundary value problems-Finite elements, Rayleigh-Ritz and Galerkin methods, finite methods

4/5/6 (Item 4 from file: 239)

DIALOG(R)File 239:Mathsci

02963368 MR 99m#35021

Stochastic homogenization of elliptic boundary-value problems with $L\sp p$-data.

Andrews, Kevin T. (Department of Mathematical Sciences, Oakland University, Rochester, Michigan, 48309)

Wright, Steve (Department of Mathematical Sciences, Oakland University, Rochester, Michigan, 48309)

(Wright, Stephen James)

Corporate Source Codes: 1-OAKL; 1-OAKL

Asymptot. Anal.

Asymptotic Analysis, 1998; 17, no. 3, 165--184. ISSN: 0921-7134 CODEN: ASANEZ

Language: English Summary Language: English

Document Type: Journal

Journal Announcement: 9816

Subfile: MR (Mathematical Reviews) AMS

Abstract Length: MEDIUM (20 lines)

The paper deals with stochastic homogenization of the boundary value problem $-\roman{div}\sb x\big(A(x,T(\varepsilon\sp {-1}x)\omega) \nabla\sb xu\sb \varepsilon\big)=f$ in $Q,\ u\sb \varepsilon =u\sb 0$ on ∂Q, where Q is a bounded Lipschitz domain of ${\bf R}\sp n$, f belongs to $L\sp p(Q)$ and $u\sb 0$ belongs to $W\sp {1-1/p,p}(\partial Q)$. Here $\{T(x)\colon\ x\in {\bf R}\sp n\}$ is a measure-preserving group of transformations acting on a probability space (Ω,Σ, μ) and $A(x,\omega)$ is a symmetric and strongly elliptic random matrix. The bivariate form of the type $A(x,T(\varepsilon\sp {-1}x)\omega)\nabla\sb xu\sb \varepsilon$ arises when there is a **nonlocal** **coupling** between the micro- and the macrostructure of the problem and the scaling $T(\varepsilon\sp {-1}x)\omega,\ \varepsilon>0$, describes random oscillations of order ε. The limiting process used is the stochastic two-scale convergence in the mean which also works for Neumann problems in a randomly perforated domain. The limit problem is shown to satisfy an elliptic system containing both deterministic and stochastic divergence form.

Reviewer: Michaille, Gerard (F-MONT2-CV)

Review Type: Signed review

Descriptors: *35B27 - **Partial** **differential** **equations** -Qualitative properties of solutions-Homogenization; **partial** **differential** **equations** in media with periodic structure (See also 73B27, 76D30) ; 35J15 - **Partial** **differential** **equations** - **Partial** **differential** **equations** of elliptic type (See also 58G05, 58G10)-General theory of second-order, elliptic equations; 35R60 - **Partial** **differential** **equations** - Miscellaneous topics involving **partial** **differential** **equations** (For

equations on manifolds, see 58Gxx; for manifolds of solutions, see 58Bxx; for stochastic **PDEs** , see also 60H15)- **Partial differential equations** with randomness (See also 60H15); 60H30 -Probability theory and stochastic processes (For additional applications, see 11Kxx, 62-XX, 90-XX, 92-XX, 93-XX, 94-XX. For numerical results, see 65U05)-Stochastic analysis (See also 58G32)-Applications of stochastic analysis (to **PDE** , etc.); 73B27 - Mechanics of solids-Continuum mechanics of solids (constitutive description and properties)-Nonhomogeneous materials; homogenization

4/5/7 **(Item 5 from file: 239)**
DIALOG(R)File 239:Mathsci

02871090 MR 99b#35008
Stochastic two-scale convergence in the mean and applications.
Bourgeat, Alain (Analyse Numerique, Universite Jean Monnet, 42023 Saint-Etienne, France)
Mikelic, Andro (Laboratoire d'Analyse Numerique, Universite Claude-Bernard (Lyon I), 69622 Villeurbanne, France)
Wright, Steve (Department of Mathematical Sciences, Oakland University, Rochester, Michigan, 48309)
(Wright, Stephen James)
Corporate Source Codes: F-SETN-NA; F-LYON-NA; 1-OAKL
J. Reine Angew. Math.
Journal fur die Reine und Angewandte Mathematik, 1994, 456, 19--51.
ISSN: 0075-4102 CODEN: JRMAA8
Language: English
Document Type: Journal
Journal Announcement: 9503
Subfile: MR (Mathematical Reviews) AMS
Abstract Length: LONG (63 lines)
From the introduction: ``There is a vast literature on homogenization, but most of the papers are devoted to the case of periodic inhomogeneities, with comparatively little treatment of the almost-periodic and general stochastic cases. The stochastic results for linear elliptic second-order equations were obtained by Kozlov and by Papanicolaou and Varadhan, and the general linear setting was treated by Zhikov, Kozlov, Oleinik, and Ngoan. Papanicolaou and Varadhan used Tartar's energy method. Kozlov established convergence by direct construction of the corrector, and Zhikov, Kozlov, Oleinik and Ngoan used strong G-convergence of operators and the $N\sp \delta$-condition. More recently, Dal Maso and Modica analyzed stochastic homogenization of convex integral functions by means of Γ-convergence.

``The various techniques just mentioned are somewhat difficult to apply when the homogenized problem has a **nonlocal** structural **coupling** between the micro- and macro-structures or when the coefficients are of the form $a(x,\epsilon\sp {-1}x)$. In order to capture the two-scale structure of the most general homogenization problems, the idea of `two-scale convergence' was recently introduced by Nguetseng, and Allaire. It has been successfully applied to a broad class of homogenization problems involving both nonlinear and nonlocal averaged equations. All of these theoretical results and applications are limited, however, to the very special periodic setting.

``In this paper, we extend the theory of two-scale convergence from the periodic to the stochastic setting. We concentrate on the Hilbert-space case and introduce `two-scale convergence in the mean', using techniques from ergodic theory (but not ergodicity itself) as an important tool. In Section 2, we introduce the basic preliminaries on ergodic theory and measurable dynamics. On a finite measure space Ω, we develop a Gateaux differential calculus arising from an n-parameter action on Ω by measure-preserving endomorphisms and prove results of compensated-compactness type (or in the language of probability, independence results) for vector fields on Ω. In Section 3 we define `two-scale convergence in the mean' and prove the fundamental compactness

theorem for bounded subsets of $L\sp 2$. We also point out the connection between strong, weak, and two-scale convergence, and establish convergence theorems when various boundedness assumptions are placed on derivatives. Besides the basic compactness theorem (Theorem 3.4), we establish a very powerful theorem (Theorem 3.7) giving additional information about the two-scale limit, assuming certain information on the first derivatives in x. These results give very simple and direct methods for the homogenization of **partial differential equations**, which we illustrate in Section 4. There we first homogenize the linear elliptic second-order equation and give the result for the general random strongly elliptic coefficient matrix $A(x,\epsilon\sp {-1}x)$ without using any ergodicity assumption. We also show the connection between the auxiliary problems of S. M. Kozlov [Mat. Sb. (N.S.) 109(151) (1979), no. 2, 188--202, 327; MR 81m:35142] and S. R. S. Varadhan [in Random fields, Vol. I, II (Esztergom, 1979), 835--873, Colloq. Math. Soc. Janos Bolyai, 27, North-Holland, Amsterdam, 1981; MR 84k:58233] and our limit problem. After this we homogenize in a very similar manner a nonlinear monotone elliptic second-order equation. We conclude with the homogenization of a parabolic equation from G. Allaire [SIAM J. Math. Anal. 23 (1992), no. 6, 1482--1518; MR 93k:35022] with random coefficients, which leads to a nonlocal limit problem mixing deterministic and stochastic derivatives.''

Reviewer: From the introduction

Review Type: Abstract

Descriptors: *35B27 - **Partial differential equations** -Qualitative properties of solutions-Homogenization; **partial differential equations** in media with periodic structure (See also 73B27, 76D30) ; 35R60 - **Partial differential equations** -Miscellaneous topics involving **partial differential equations** (For equations on manifolds, see 58Gxx; for manifolds of solutions, see 58Bxx; for stochastic **PDEs** , see also 60H15)- **Partial differential equations** with randomness (See also 60H15); 60H15 -Probability theory and stochastic processes (For additional applications, see 11Kxx, 62-XX, 90-XX, 92-XX, 93-XX, 94-XX. For numerical results, see 65U05)-Stochastic analysis (See also 58G32)-Stochastic **partial differential equations**. (See also 35R60); 73B27 -Mechanics of solids-Continuum mechanics of solids (constitutive description and properties)-Nonhomogeneous materials; homogenization

4/5/8 (Item 6 from file: 239)

DIALOG(R)File 239:Mathsci

02577362 MR 96f#76065

Artificial boundary conditions for the numerical solution of external viscous flow problems.

Ryabenkii, V. S. (Keldysh Institute of Applied Mathematics, Russian Academy of Sciences, 125047 Moscow, Russia)

Tsynkov, S. V. (Division of Applied Mathematics, Department of Mathematical Sciences, Tel Aviv University, Ramat Aviv, Tel Aviv 69978, Israel)

Corporate Source Codes: RS-AOS-M; IL-TLAV-DA

SIAM J. Numer. Anal.

SIAM Journal on Numerical Analysis, 1995, 32, no. 5, 1355--1389.

ISSN: 0036-1429 CODEN: SJNAAM

Language: English Summary Language: English

Document Type: Journal

Journal Announcement: 9601

Subfile: MR (Mathematical Reviews) AMS

Abstract Length: MEDIUM (21 lines)

The authors consider the compressible Navier-Stokes equations in an unbounded domain in ${\bf R}\sp 2$ with a finite obstacle, for example, flow past an airfoil. They derive an artificial boundary condition to be used at the far-field boundary of a finite domain. The artificial boundary condition is **nonlocal** : it **couples** together all the points on the boundary.

The derivation is shown first for the continuous case, via linearization and Fourier transform in one direction. Growth conditions on the solution are equivalent to a fixed-point problem for a ``generalized potential'' operator, an operator which lives only on the boundary. The continuous derivation is then modified from an unbounded domain in the Fourier transform direction to a bounded domain with a periodicity condition.

The whole derivation can then be discretized and carried out numerically. The core of the process is the derivation of a matrix operator which lives on the outer boundary. Results of a computation of viscous flow over an airfoil are shown and compared with a standard technique. The new technique requires a considerable effort to compute the outer boundary matrix operator but is still more efficient than a standard method if a high accuracy solution is required.

Reviewer: Jespersen, Dennis C. (1-NASA9)

Review Type: Signed review

Descriptors: *76M25 -Fluid mechanics (For general continuum mechanics, see 73Bxx, or other parts of 73-XX)-Basic methods in fluid mechanics (See also 65-xx)-Other numerical methods ; 65M99 -Numerical analysis- **Partial differential equations** , initial value and time-dependent initial-boundary value problems-None of the above, but in this section; 65N99 -Numerical analysis- **Partial differential equations** , boundary value problems-None of the above, but in this section; 76N10 -Fluid mechanics (For general continuum mechanics, see 73Bxx, or other parts of 73-XX)-Compressible fluids and gas dynamics, general-Compressible fluids, general (See also 35Q30

4/5/9 (Item 7 from file: 239)

DIALOG(R)File 239:Mathsci

02360088 MR 84e#81012

Lower-bound estimates on the coupling constant of certain nonlinear Schrodinger equations by $L\sp{p}$-inequalities.

Efinger, H. J.

Lett. Nuovo Cimento (2)

Lettere al Nuovo Cimento. Rivista Internazionale della Societa Italiana di Fisica. Serie 2, 1982, 35, no. 7, 218--220. ISSN: 0024-1318 CODEN: LNUCAE

Language: English

Document Type: Journal

Journal Announcement: 1510

Subfile: MR (Mathematical Reviews) AMS

Abstract Length: SHORT (9 lines)

From the text and summary: ``In this paper we consider the nonlinear Schrodinger equation with **nonlocal** self- **coupling** (1) ({nabla}{sup}2 - {vert} epsilon {vert}) phi + kappa {sup}2 phi {int}{sub}(R{sup}3){vert}K(x - y){vert} phi {sup}2(y) dy=0 together with (2) {int}{sub}(R{sup}3) phi {sup}2 dx=1, where kappa {sup}2 is the coupling constant. The potential in Schrodinger's equation is a nonlocal functional of the wave function. Lower-bound estimates on the associated coupling constant are obtained via Young's inequality.''

Reviewer: From the text

Review Type: Abstract

Descriptors: *81C10 -Quantum Theory-General mathematical topics and methods in quantum mechanics-Selfadjoint operator theory in quantum mechanics; essential selfadjointness of the Hamiltonian ; 35Q20 - **Partial differential equations** -Equations of mathematical physics and other areas of application (See also 35J05, 35J10, 35K05, 35L05)-Particular equations of mathematical physics (Korteweg-de Vries, Burgers, etc.); 47F05 - Operator theory-Partial differential operators (See also 35Pxx, 58G05); 81F05 -Quantum Theory-Scattering theories-2-body potential scattering theory (See also 34E20 for WKB methods

4/5/10 (Item 8 from file: 239)
DIALOG(R)File 239:Mathsci

01658424 MR 82b#92009
Self-organisation as a result of effective nonlocality.
Belintsev, B. N.
Livshitz, M. A.
Volkenstein, M. V.
(Volkenshtein, M. V.)
Phys. Lett. A
Physics Letters. A, 1981, 82, no. 8, 375--377. ISSN: 0031-9163
CODEN: PHYLAA
Language: English
Document Type: Journal
Journal Announcement: 1315
Subfile: MR (Mathematical Reviews) AMS
Abstract Length: SHORT (5 lines)
Authors' summary: ''A one-component quasilinear kinetic system with **nonlocal** spatial **coupling** is considered. The long-range inhibition effect combined with a short-range activation is shown to provide a possibility of spontaneous dissipative structure formation. The effective nonlocality can be due to diffusion of an intermediate.''
Reviewer: Authors' summary
Review Type: Abstract
Descriptors: *92A09 -Biology and other natural sciences, behavioral sciences-Physiology, biochemistry (See also 76-XX, in particular 76Zxx, and ; 35K55 - **Partial differential equations** -Parabolic equations and systems (See also 35Bxx, 35Dxx, 35R30, 35R35, 58G11)-Nonlinear **PDE** of parabolic type; 80A20 -Classical thermodynamics, heat transfer (For thermodynamics of solids, see 73B30)-Heat and mass transfer, heat flow

```
File 347:JAPIO Nov 1976-2005/Feb(Updated 050606)
         (c) 2005 JPO & JAPIO
File 350:Derwent WPIX 1963-2005/UD,UM &UP=200546
         (c) 2005  Thomson Derwent

Set     Items   Description
S1       1375   PARTIAL??()DIFFERENTIAL()EQUATION? ? OR PDE OR PDES
S2          3   (NON()LOCAL OR NONLOCAL)(1W)COUPL???
S3          3   S1 AND S2
```

3/5/1 **(Item 1 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

016044816 **Image available**
WPI Acc No: 2004-202667/200419
Related WPI Acc No: 2003-482564; 2003-616649
XRPX Acc No: N04-161157

Finite unit discretization method for computer simulation, involves determining representation of partial differential equation **system for each application mode using** non - local coupling **and forming combined differential equations** system

Patent Assignee: BERTILSSON D (BERT-I); LANGEMYR L (LANG-I); LONG J (LONG-I); NORDMARK A (NORD-I); PERSSON P (PERS-I)
Inventor: BERTILSSON D; LANGEMYR L; LONG J; NORDMARK A; PERSSON P
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20040034514	A1	20040219	US 2000222394	P	20000802	200419	B
			US 2000675778	A	20000929		
			US 2000253154	P	20001127		
			US 2001995222	A	20011127		
			US 200242936	A	20020109		

Priority Applications (No Type Date): US 200242936 A 20020109; US 2000222394 P 20000802; US 2000675778 A 20000929; US 2000253154 P 20001127 ; US 2001995222 A 20011127
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20040034514	A1		164	G06F-017/10	Provisional application US 2000222394
					CIP of application US 2000675778
					Provisional application US 2000253154
					CIP of application US 2001995222

Abstract (Basic): US 20040034514 A1

NOVELTY - The method involves representing systems (10) as an application mode, modeling physical quantities of the system. A representation of a **partial differential equation** system is determined for each application mode using **non - local coupling** . The coupling determines a value in one point by a value from another point. Combined system of **partial differential equations** is formed using **partial differential equation** systems.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(a) a method for assembling a finite unit discretization

(b) a computer program product for producing a combined system of **partial differential equations**

(c) a computer program product for assembling a finite unit discretization.

USE - Used for computing finite unit discretization in a computer system for simulation of engineering and scientific disciplines.

ADVANTAGE - The method provides an efficient and flexible arrangement for defining various couplings between the **partial differential equations** with a single geometry as well as between different geometries.

DESCRIPTION OF DRAWING(S) - The drawing shows an example of a computer system.

Computer system (10)
Data storage system (12)
Host (14a-14n)
Communication medium (18)
pp; 164 DwgNo 1/75

Title Terms: FINITE; UNIT; DISCRETE; METHOD; COMPUTER; SIMULATE; DETERMINE; REPRESENT; DIFFERENTIAL; EQUATE; SYSTEM; APPLY; MODE; NON; LOCAL; COUPLE;

FORMING; COMBINATION; DIFFERENTIAL; EQUATE; SYSTEM
Derwent Class: T01
International Patent Class (Main): G06F-017/10
File Segment: EPI

3/5/2 (Item 2 from file: 350)
DIALOG(R)File 350:Derwent WPIX

015554494 **Image available**
WPI Acc No: 2003-616649/200358
Related WPI Acc No: 2003-482564; 2004-202667
XRPX Acc No: N03-491062
Combined partial differential equations **production method e.g. for solving chemical reaction, involves combining** partial differential equations **representing application mode modeling physical quantities of that system**
Patent Assignee: BERTILSSON D (BERT-I); LANGEMYR L (LANG-I); LONG J (LONG-I); NORDMARK A (NORD-I); PERSSON P (PERS-I)
Inventor: BERTILSSON D; LANGEMYR L; LONG J; NORDMARK A; PERSSON P
Number of Countries: 001 Number of Patents: 001
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
US 20030105614	A1	20030605	US 2000222394	P	20000802	200358	B
			US 2000675778	A	20000929		
			US 2000253154	P	20001127		
			US 2001995222	A	20011127		

Priority Applications (No Type Date): US 2001995222 A 20011127; US 2000222394 P 20000802; US 2000675778 A 20000929; US 2000253154 P 20001127
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
US 20030105614	A1		114	G06F-007/60	Provisional application US 2000222394
					CIP of application US 2000675778
					Provisional application US 2000253154

Abstract (Basic): US 20030105614 A1
NOVELTY - Each system is represented as an application mode modeling physical quantities of that system. Each mode is represented as a **partial differential equation** (**PDE**), using **non - local coupling** which define a value from one portion of a domain to another portion of another domain. The **partial differential equation** associated with the systems are combined, to form the combined system.
DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for computer program product for producing combined system of **partial differential equations** .
USE - For combining **PDEs** representing e.g. chemical reactions, acoustics, diffusion, electromagnetic, fluid dynamics, general physics, geophysics, heat transfer, porous media flow, quantum mechanics, semiconductor devices, structural mechanics and wave propagation.
ADVANTAGE - One or more application modes is combined using an automated technique, into combined system of **PDEs** at a multiphysics model, efficiently.
DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of computer system for producing combined system of **partial differential equations** .
computer system (10)
data storage system (12)
host systems (14a-14n)
pp; 114 DwgNo 1/50
Title Terms: COMBINATION; DIFFERENTIAL; EQUATE; PRODUCE; METHOD; SOLVING; CHEMICAL; REACT; COMBINATION; DIFFERENTIAL; EQUATE; REPRESENT; APPLY; MODE; PHYSICAL; QUANTITY; SYSTEM

Derwent Class: T01
International Patent Class (Main): G06F-007/60
International Patent Class (Additional): G06F-017/10
File Segment: EPI

3/5/3 **(Item 3 from file: 350)**
DIALOG(R)File 350:Derwent WPIX

015420424 **Image available**
WPI Acc No: 2003-482564/200345
Related WPI Acc No: 2003-616649; 2004-202667
XRPX Acc No: N03-383724
Method executed in a computer system for producing a combined system of partial differential equations **forming combined system of** partial differential equations **using** partial differential equation **systems associated with the several systems**
Patent Assignee: COMSOL AB (COMS-N)
Inventor: BERTILSSON D; LANGEMYR L; LONG J; NORDMARK A; PERSSON P
Number of Countries: 101 Number of Patents: 002
Patent Family:

Patent No	Kind	Date	Applicat No	Kind	Date	Week	
WO 200346774	A2	20030605	WO 2002IB5813	A	20021127	200345	B
AU 2002360194	A1	20030610	AU 2002360194	A	20021127	200419	

Priority Applications (No Type Date): US 200242936 A 20020109; US 2001995222 A 20011127
Patent Details:

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
WO 200346774	A2	E	195	G06F-017/50	

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG SI SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW
Designated States (Regional): AT BE BG CH CY CZ DE DK EA EE ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SK SL SZ TR TZ UG ZM ZW

Patent No	Kind	Lan	Pg	Main IPC	Filing Notes
AU 2002360194	A1			G06F-017/50	Based on patent WO 200346774

Abstract (Basic): WO 200346774 A2
NOVELTY - The method involves representing each of several systems as an application mode modelling physical quantities of each system. A representation is determined of a **partial differential equation** system for each application mode corresponding to one of the systems using at least one **non - local coupling** . The **non - local coupling** determines a value in at least one point depending on a value from at least one other point. The combined system of **partial differential equations** is formed using **partial differential equation** systems associated with the systems.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
(a) a method for assembling a finite element discretization of a system of weak **partial differential equations ;**
(b) a computer program product.
USE - For modelling, simulation and problem solving using a computer system.
ADVANTAGE - Allows user to combine one or more systems represented by different models.
DESCRIPTION OF DRAWING(S) - The figure shows a computer system.
pp; 195 DwgNo 1/75
Title Terms: METHOD; EXECUTE; COMPUTER; SYSTEM; PRODUCE; COMBINATION; SYSTEM; DIFFERENTIAL; EQUATE; FORMING; COMBINATION; SYSTEM; DIFFERENTIAL; EQUATE; DIFFERENTIAL; EQUATE; SYSTEM; ASSOCIATE; SYSTEM
Derwent Class: T01

```
File 348:EUROPEAN PATENTS 1978-2005/Jul W02
         (c) 2005 European Patent Office
File 349:PCT FULLTEXT 1979-2005/UB=20050721,UT=20050714
         (c) 2005 WIPO/Univentio

Set     Items   Description
S1       3737   PARTIAL??()DIFFERENTIAL()EQUATION? ? OR PDE OR PDES
S2          3   (NON()LOCAL OR NONLOCAL)(1W)COUPL???
S3          1   S1 AND S2
```

3/3,K/1 **(Item 1 from file: 349)**
DIALOG(R)File 349:PCT FULLTEXT

01017721
A METHOD FOR ASSEMBLING THE FINITE ELEMENT DISCRETIZATION OF ARBITRARY WEAK EQUATIONS INVOLVING LOCAL OR NON-LOCAL MULTIPHYSICS COUPLINGS
PROCEDE DESTINE A ASSEMBLER LA DISCRETISATION D'ELEMENTS FINIS D'EQUATIONS ARBITRAIRES FAIBLES IMPLIQUANT DES COUPLAGES MULTIPHYSIQUES LOCAUX OU NON LOCAUX
Patent Applicant/Assignee:
COMSOL AB, Tegnergatan 23, S-111 40 Stockholm, SE, SE (Residence), SE (Nationality)
Inventor(s):
LANGEMYR Lars, Luntmakargatan 86B, 3 tr, S-113 51 Stockholm, SE,
BERTILSSON Daniel, Malmvagen 19, S-191 61 Sollentuna, SE,
NORDMARK Arne, Floragatan 10, 4 tr, S-114 31 Stockholm, SE,
PERSSON Per-Olof, Apartment 13F, 60 Wadsworth Street, Apt. 13F, Cambridge, MA 02142, US,
LONG Jerome, Amaris Hill Close Harrow, Middx HA1 3PQ, GB,
Legal Representative:
LEINBERG Gunnar G (et al) (agent), Nixon Peabody LLP, Clinton Square, P.O. Box 31051, Rochester, NY 14603-1051, US,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200346774 A2 20030605 (WO 0346774)
Application: WO 2002IB5813 20021127 (PCT/WO IB02005813)
Priority Application: US 2001995222 20011127; US 200242936 20020109
Designated States:
(Protection type is "patent" unless otherwise stated - for applications prior to 2004)
AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ
EC EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR
LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ OM PH PL PT RO RU SC SD SE SG
SI SK SL TJ TM TN TR TT TZ UA UG UZ VC VN YU ZA ZM ZW
(EP) AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LU MC NL PT SE SK TR
(OA) BF BJ CF CG CI CM GA GN GQ GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZM ZW
(EA) AM AZ BY KG KZ MD RU TJ TM
Publication Language: English
Filing Language: English
Fulltext Word Count: 54602

Fulltext Availability:
Detailed Description
Claims

Detailed Description
... linear or non- linear equations.

It may also be advantageous and desirable to work with systems of **partial differential equations** having multiple geometries and also provide an efficient and flexible arrancrement for defining various couplings between the **partial differential equations** within a single geometry as well as between different geometries.

3
SUMMARY OF THE INVENTION
In accordance...of the invention is a method executed in a computer systern for producing a combined system of **partial differential equations** comprising.

representing each of a plurality of systems as an application mode modeling physical quantities of said each system; determining a representation of a **partial differential equation** system for each application mode corresponding to one of said Plurality Of Systems Using

at least one non local coupling, said at least one **non - local coupling** determining a value in at least one point depending on a value from at least one other point; and forming said combined system of partial differential equations using **partial differential equation** systems associated with said plurality of systems.

```
File 275:Gale Group Computer DB(TM) 1983-2005/Jul 22
         (c) 2005 The Gale Group
File 621:Gale Group New Prod.Annou.(R) 1985-2005/Jul 22
         (c) 2005 The Gale Group
File 636:Gale Group Newsletter DB(TM) 1987-2005/Jul 21
         (c) 2005 The Gale Group
File  16:Gale Group PROMT(R) 1990-2005/Jul 21
         (c) 2005 The Gale Group
File 160:Gale Group PROMT(R) 1972-1989
         (c) 1999 The Gale Group
File 148:Gale Group Trade & Industry DB 1976-2005/Jul 22
         (c)2005 The Gale Group
File 624:McGraw-Hill Publications 1985-2005/Jul 22
         (c) 2005 McGraw-Hill Co. Inc
File  15:ABI/Inform(R) 1971-2005/Jul 22
         (c) 2005 ProQuest Info&Learning
File 647:CMP  Computer Fulltext 1988-2005/Jul W1
         (c) 2005 CMP Media, LLC
File 674:Computer News Fulltext 1989-2005/Jul W3
         (c) 2005 IDG Communications
File 696:DIALOG Telecom. Newsletters 1995-2005/Jul 21
         (c) 2005 The Dialog Corp.
File 369:New Scientist 1994-2005/May W3
         (c) 2005 Reed Business Information Ltd.
File 810:Business Wire 1986-1999/Feb 28
         (c) 1999 Business Wire
File 813:PR Newswire 1987-1999/Apr 30
         (c) 1999 PR Newswire Association Inc
File 610:Business Wire 1999-2005/Jul 21
         (c) 2005 Business Wire.
File 613:PR Newswire 1999-2005/Jul 22
         (c) 2005 PR Newswire Association Inc

Set     Items   Description
S1       6001   PARTIAL??()DIFFERENTIAL()EQUATION? ? OR PDE OR PDES
S2          1   (NON()LOCAL OR NONLOCAL)(1W)COUPL???
S3          0   S1 AND S2
```

```
File 256:TecInfoSource 82-2005/Jun
         (c) 2005 Info.Sources Inc

Set       Items    Description
S1           15    PARTIAL??()DIFFERENTIAL()EQUATION? ? OR PDE OR PDES
S2            0    (NON()LOCAL OR NONLOCAL)(1W)COUPL???
```

Results for **"(partial differential equation* or pde or pdes) and (nonlocal coupl* or non local coupl*) <in>..."** e-mail
Your search matched **1** of **1194402** documents.
A maximum of **100** results are displayed, **25** to a page, sorted by **Relevance** in **Descending** order.

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New Search

Modify Search

(partial differential equation* or pde or pdes) and (nonlocal coupl* or non local coupl*)

☐ Check to search only within this results set

Display Format: ◉ Citation ○ Citation & Abstract

» **Key**

IEEE JNL	IEEE Journal or Magazine
IEE JNL	IEE Journal or Magazine
IEEE CNF	IEEE Conference Proceeding
IEE CNF	IEE Conference Proceeding
IEEE STD	IEEE Standard

☐ 1. **Quantum device-simulation with the density-gradient model on unstructu**
Wettstein, A.; Schenk, A.; Fichtner, W.;
Electron Devices, IEEE Transactions on
Volume 48, Issue 2, Feb. 2001 Page(s):279 - 284
Digital Object Identifier 10.1109/16.902727
AbstractPlus | References | Full Text: PDF(128 KB) **IEEE JNL**

Search Results

Nothing Found

Your search for **[(partial differential equation* or pde or pdes) and (nonlocal coupl* or non local coupl*)]** did not return any results.

You may revise it and try your search again below or click advanced search for more options.

(partial differential equation* or pde or pdes) and (nonlocal coupl* or non local coupl*)

Search [**Advanced Search**] [**Search Help/Tips**]

Complete Search Help and Tips

The following characters have specialized meaning:

Special Characters	Description
, ( ) [	These characters end a text token.
= > < !	These characters end a text token because they signify the start of a field operator. (! is special: != ends a token.)
` @ \Q < { [!	These characters signify the start of a delimited token. These are terminated by the end character associated with the start character.

CiteSeer Find: (partial differential equations or par Documents Citations

Searching for **(partial differential equations or partial differential equation or pde or pdes) and (nonlocal coupling)**.
Restrict to: Header Title Order by: Expected citations Hubs Usage Date Try: Google (CiteSeer) Google (Web) Yahoo! MSN CSB DBLP
2 documents found. **Order: number of citations.**

Influence-Based Model Decomposition For Reasoning About... - Bailey-Kellogg, Zhao (2001) (Correct)
which are usually modeled with **partial differential equations** (**PDEs**)is one of the major
modeled with **partial differential equations** (**PDEs**)is one of the major challenge problems for
to global mappings and back is compounded by **nonlocal coupling** between local nodes. In addition to strong
www2 parc com/spl/members/zhao/papers/aij01.pdf

One or more of the query terms is very common - only partial results have been returned. Try Google (CiteSeer).

Try your query at: Google (CiteSeer) Google (Web) Yahoo! MSN CSB DBLP

CiteSeer Find: (partial differential equations or par Documents | Citations |

Searching for **(partial differential equations or partial differential equation) and (non local coupling)**.
Restrict to: Header Title Order by: Expected citations Hubs Usage Date Try: Google (CiteSeer) Google (Web) Yahoo! MSN CSB DBLP
No documents match Boolean query. Trying non-Boolean relevance query.
59 documents found. **Order: relevance to query.**

Lower Dimensional Interpolation in Overlapping Composite Mesh.. - Goossens, Cai (1999) (Correct)
our CMDM for solving the second order elliptic **partial** dierential **equation** Lu =f in with a
of many subdomains. We focus on the 2D Poisson's **equation**. Our results show that it is possible to obtain
interpolation can be used along the interface of the **non**matching grids. The advantage of this approach is
www.cs.colorado.edu/homes/cai/public_html/papers/goossens.ps.gz

Local Preconditioners for Two-Level Non-Overlapping.. - Carvalho, Giraud.. (1999) (Correct) (1 citation)
parallel distributed computing, elliptic **partial differential equations**, parabolic **partial**
distributed computing, elliptic **partial differential equations**, parabolic **partial differential**
computing, elliptic **partial differential equations**, parabolic **partial differential equations**. 1
www cerfacs fr/algor/reports/TR_PA_99_38.ps.gz

Extraction of Hydrographic Regions from Remote Sensing Images.. - Xiuwen Liu Ke (Correct) (2 citations)
and National Imagery and Mapping Agency for **partial**ly sponsoring the project. This work was also
W ijkl encodes dissimilarity to simplify the **equations** for weight adaptation, hence the reciprocal 1
two phases occurs on a fast time scale. The highly **non**linear behavior leads to desirable properties for
www.cis.ohio-state.edu/~dwang/papers/LCW00.ps.gz

The Global Brain as a Modeling Paradigm for Crisis Management - Mayer-Kress, Barczys (1994) (Correct)
closed systems of variables, parameters, and **equations** 1 We, however, would like to suggest models
and appropriate in their responses to ever-changing, **non**-equilibrium situations are desired. We first
capability -becomes possible through **non- local coupling** of computer and information resources in
ftp.santafe.edu/pub/gmk/Papers/GlobalBrain/GBCM-TO.ps.Z

Object Selection Based on Oscillatory Correlation - Wang (1999) (Correct) (2 citations)
55, 349-374. Terman, D.Lee, E. 1997)**Partial** synchronization in a network of neural
constant, W T .Wang and Terman (1997) provided **differential equations** to realize such normalization. It is
T .Wang and Terman (1997) provided **differential equations** to realize such normalization. **It** is worth
www.cis.ohio-state.edu/~dwang/papers/Wang.nn99.pdf.gz

Nasa/cr-2003-212162 - System Risk Assessment (2003) (Correct)
on principles of physics, usually in the form of **partial differential equations**) of the real system.
of physics, usually in the form of **partial differential equations**) of the real system. Regardless of
weight, and #V (velocity change from the rocket **equation**)Incorporating risk goals explicitly in the
techreports.larc.nasa.gov/ltrs/PDF/2003/cr/NASA-2003-cr212162.pdf

Hydrodynamic Effects in 3D Microphase Separation of Block.. - Maurits Zvelindovsky (Correct)
inertia terms in the incompressible NavierStokes **equation** are neglected giving the Stokes **equation**, which
in the velocity being proportional to a weighted **nonlocal** average of the force (Oseen tensor
equation for the density fields. Substituting a **local coupling** approximation for the kinetic
rugmd0.chem.rug.nl/abstracts/maurits_6.ps.gz

On The Predictability Of Coupled Automata: - An Allegory About (Correct)
automata in state s.Atomic formulae are linear **equations** and inequalities of terms, such as: N(x) 2
uses an increasingly accurate characterization of **non**-constant-free rules to 2 essentially reduce any
can be, in general, of two di#erent types: **Local coupling** between nearest neighbors, or of a more
euclid.ucsd.edu/~sbuss/ResearchWeb/cellular/finalfocs.ps

An Incomplete Domain Decomposition Preconditioning Method for.. - Han Gyu Joo (1996) (Correct)
reflector. There are nine fully inserted and four **partial**ly inserted control rods. The assembly pitch is
on domain decomposition methods for **partial differential equations**, R. Glowinsky et. al.pp. 231-249,

Searching for **(pde or pdes) and (non local coupling)**.
Restrict to: Header Title Order by: Expected citations Hubs Usage Date Try: Google (CiteSeer) Google (Web) Yahoo! MSN CSB DBLP
No documents match Boolean query. Trying non-Boolean relevance query.
500 documents found. **Only retrieving 250 documents (System busy - maximum reduced). Order: relevance to query.**

Embedded Boundary Algorithms for Solving the.. - Day, Colella.. (1998) (Correct) (2 citations)
boundary discretizations of conservation-law **PDE**'s. The representation allows recursive generation in a sparse representation which implements the **non**trivial aspects of the connectivity implied by G of the full potential equation, complete with **local** adaptivity. Clarke, et al.5]Gaffney, et
seesar.lbl.gov/ccse/publications/../people/marc/EmbeddedBoundary/DCLRM.ps.gz

BuGS 1.0 User Guide - Ayati (Correct)
.3 1.2 Second Order **Non**linear **PDE**'s .3 1.3 How
is a toolkit for solving single space dimensional, **non**linear systems of partial differential equations
ftp.cs.uchicago.edu/pub/publications/tech-reports/TR-96-18.ps

A Parallel Multigrid Method Using The Full Domain Partition - Mitchell (1997) (Correct) (11 citations)
solution of partial differential equations (**PDEs**) is the most computationally intensive part of are easily modified for parallel execution. A **non**uniform grid is generated by an adaptive refinement on the boundary of the partition. This provides a **local** copy of the data required by computations on this
math.nist.gov/mcsd/Staff/WMitchell/papers/copper97.ps.gz

Formalising Actors in Linear Logic - Darlington, Guo (1995) (Correct) (3 citations)
the interaction between messages and actors are **non**deterministic: an actor may interact with different the actor model such as asynchronous communication, **local** states and acquaintances. In this paper, we
src.doc.ic.ac.uk/ic.doc/ALA/papers/Y.Guo/oo.ps.gz

Optimal Maps For The Multidimensional Monge-Kantorovich Problem - Gangbo, SWIECH (1996) (Correct) (1 citation)
problem was used as a tool for solving **PDE**'s, and in [14] the problem was applied to the
2.1 Assume that 1 Delta \Delta \Delta N are **non**negative Borel probability measures vanishing on (d
L.and Uckelmann, L.On optimal multivariate **couplings**, preprint #26, Mathematische Facultat,
www.math.gatech.edu/~swiech/mmk.ps

On Homogenization and Continuum Scaling Limit of Some Gradient.. - Ali Reza (Correct)
on Some Correlation Functions 11 2.1 Some Related **PDE**'s and the Sjostrand Representation 11 2.2. scaling, namely the factor 1=L d=21 to obtain a **non**-trivial CLT. However, the family of random where the discrete Laplacian \Delta is defined **local**ly by (Gamma\Deltaf)x) def. 2df(x) Gamma
www.math.lsa.umich.edu/~naddaf/paper/THESIS.ps

Algebraic Multigrid Solver for Discrete Elliptic Second Order.. - Kickinger (Correct)
on the basis of Partial Differential Equations **PDEs**) and its Finite Element (FE) discretisations, the use this method for three dimensional problems with **non**-simple geometries, the parallelisation of this (also !1 was tested)Testing out problems with **local** refined grids, or with different materials, no
nathan.numa.uni-linz.ac.at/pub/technical_reports/tr96-5.ps.gz

Markov Chain Algorithms for Planar Lattice Structures (Extended.. - Luby, al. (1995) (Correct) (25 citations)
, generate uniformly at random a tiling of S with **non**-overlapping dominoes. Each domino covers two of moves. Similar Markov chains, based on analogous **local** moves, are used to generate other twodimensional amenable to a simple and elegant analysis using **coupling** arguments. In fact, this analysis leads us to
dbwilson.com/exact/luby-randall-sinclair.ps.gz

A Parallel Q-Method for a Semiconductor Laser Array Model - Romero, Zapata, Ramos (1996) (Correct)
coupled, partial differential equations (**pdes**) for the complex optical fields F and B, and the of a two-stripe index-guided laser. or more **non**linear oscillators are combined into one simple

Refine Search

Search Results -

Terms	Documents
nonlocal adj coupling or non adj local adj coupling	0

Database:
US Pre-Grant Publication Full-Text Database
US Patents Full-Text Database
US OCR Full-Text Database
EPO Abstracts Database
JPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

Search: L2

Refine Search

Recall Text Clear Interrupt

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DATE: Friday, July 22, 2005 Printable Copy Create Case

Set Name side by side	Query	Hit Count	Set Name result set
	DB=TDBD; PLUR=YES; OP=OR		
L2	nonlocal adj coupling or non adj local adj coupling	0	L2
L1	partial adj differential adj equation$ or pde or pdes	14	L1

END OF SEARCH HISTORY